

### Reading Two

Gibbons, P. (2002). From speaking to writing in the content classroom. *Scaffolding language: Scaffolding learning*. Portsmouth, NH: Heinemann.

# 3

## From Speaking to Writing in the Content Classroom

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*Prior experience becomes a context for interpreting the new experience . . . prior experiences serve as the contexts within which the language being used is to be understood.* Lily Wong-Fillmore, "When Does Teacher Talk Work as Input?"

### Using the Mode Continuum

In Chapter 1, I briefly touched on the idea of register. One of the ways we looked at this was to compare four short science texts. Here are four similar texts again, this time as more extended pieces of language. They illustrate how certain linguistic features change as language becomes increasingly closer to written forms.

*Text 1: (spoken by three 10-year-old students, with accompanying action)*  
this . . . no, it doesn't go . . . it doesn't move . . . try that . . . yes, it does . . . a bit . . . that won't . . . won't work, it's not metal . . . these are the best . . . going really fast.

*Text 2: (spoken by one student about the action, after the event)*  
we tried a pin . . . a pencil sharpener . . . some iron filings and a piece of plastic . . . the magnet didn't attract the pin.

*Text 3: (written by the same student)*  
Our experiment was to find out what a magnet attracted. We discovered that a magnet attracts some kinds of metal. It attracted the iron filings, but not the pin.

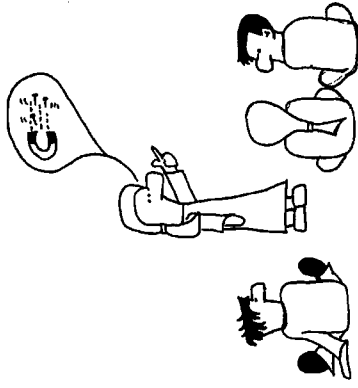
*Text 4: (taken from a child's encyclopedia)*  
A magnet . . . is able to pick up, or attract, a piece of steel or iron because its magnetic field flows into the magnet, turning it into a temporary magnet. Magnetic attraction occurs only between ferrous materials.

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As discussed in Chapter 1, the term *mode* is used in Halliday's functional linguistics to refer to the channel of communication, whether it is spoken or written. The four texts shown here together form a continuum from spoken to written language. Using Martin's (1984) term, we will refer to this sequence as a *mode continuum*.

Text 1 is typical of the kind of situation-embedded language produced in face-to-face contexts. The fact that everyone can see what is being talked about means that objects need not be named—instead, a speaker can use reference words (such as *this*, *these*, *that*), to verbally “point” to things in the immediate environment and know that the other participants in the conversation will understand what is being referred to.

In Text 2 the context changes because the student is telling others what she learned and no longer has the science equipment in front of her. She must now reconstruct the experience through language alone, so she makes explicit the things or people she is referring to (*we*, *pin*, *pencil sharpener*, *iron filings*, *piece of plastic*) and names what is happening (*attract*.)



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Through Language Alone*

Text 3 is a written text and, since the audience is now unseen, the writer can't rely on shared assumptions: she can't assume that readers of the text will know anything at all about the particular events she is describing. So, once again, the writer must recreate the experience through language alone, but this time she also needs to provide an orientation for the readers in order to provide a context for what follows: *Our experiment was to . . .*

In Text 4 there is no reference to a specific experiment. The magnet referred to here as *a magnet* is generic: its properties are those of all magnets. There is an increase in technical terms and in the density of the text; a lot of information is being packed in. One way of packing in information in a written text is to use a *nominalization*, meaning that a process or verb (*attract*) is turned into a noun (*attraction*). Turning processes into nouns is typical of much written language because it is very often the general concept or phenomenon we want to talk about, rather than the people and processes around a specific event.

While spoken and written language obviously have distinctive characteristics, this continuum of texts illustrates that there is no absolute boundary between them. Technology increases this blurring. Leaving a detailed message on an answering machine, for example, may be quite linguistically demanding since, in the absence of two-way contact, and without (initially at least) the shared understandings and expectations that are implicit in two-way, face-to-face communication, we are required to “speak aloud” the kind of language that would more usually be written. Thus in terms of the mode continuum, it is perhaps more appropriate to describe texts as “more spoken-like” or “more written-like,” and these are the terms that will be used here.

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As discussed briefly in Chapter 1, texts that are most spoken-like (like Text 1) are often dependent for their interpretation on the situation in which they occur: they are situation-embedded. More written-like texts are not embedded in the situation itself; they must be complete enough in themselves to create their own context for the listener or reader. Thus as we move along the mode continuum, texts are no longer dependent on the situation in which they occur: if we read a book while at the beach, for example, our understanding of what we read and how we interpret the language usually has nothing to do with the fact that we are sitting on a beach.

As Chapter 1 pointed out, a second language learner is likely to have fewer difficulties with producing something like Text 1, where the situational context itself provides a support for meaning and there are thus fewer linguistic demands, than with more written-like texts, where more lexico-grammatical resources are required (those involving grammar and vocabulary). It is worth noting, too, that when children are expected to write simply on the basis of personal experiences, they are being asked to take a very large linguistic step (as can be seen by comparing Texts 1 and 3), and one that is beyond the current linguistic resources of some second language learners. If you reflect back on the spoken language activities described in the previous chapter, you'll see that many of them require learners to use more explicit spoken language (like Text 2). This is the reason, for example, why barrier games such as *Find the Difference* are designed the way they are. If students were to show each other their pictures, they would be using language as in Text 1; by not showing each other the pictures, they are using language more like Text 2, and thus are practicing a more written-like register.

In this chapter we will look at how one teacher used the notion of the mode continuum as a major organizing principle in the planning of her classroom program. (For a fuller description of this program, see Gibbons 2001.) For all but two of her students, English was a second or subsequent language, and therefore her whole curriculum needed to be supportive of language development as well as to focus on appropriate content. Using the mode continuum as a linguistic framework, she designed teaching activities that were sequenced from most situation-embedded, or most spoken-like (and thus for ESL learners the most easily understood), to least situation-dependent, or most written-like (a written journal). A major focus for the teacher was to help students use spoken language in the way that Text 2 illustrates—that is, spoken language that is not dependent on the immediate situational context in which it occurs. This more written-like spoken language serves as a language bridge between the talk associated with experiential activities and the more formal—and often written—registers of the curriculum.

Based on the science topic of magnetism, the teacher planned teaching and learning activities to reflect points along the mode continuum so as to offer a logical development in terms of language learning. Here are the stages that the children moved through:

1. *Doing an experiment (small groups).* Learners initially participated in small-group learning experiences based on a number of science experiments in which the language used was tied in with the situation the children were in. What they

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talked about referred directly to the actions in which they were taking part, and to what was happening in front of them.

2. *Introducing key vocabulary (whole class).* At this point the teacher briefly introduced the words *attract* and *repel* to the children.
3. *Teacher-guided reporting (whole class).* Groups of students, with the help of the teacher, shared their learning with the whole class. Since this did not involve the use of the concrete materials, students had to use language more explicitly, which provided a linguistic bridge into journal writing. During this part of the cycle, the teacher also helped the children build up generalizations by directing children's attention to the commonalities in each group's findings.
4. *Journal writing (individual).* This was the final activity of the cycle and linguistically the most demanding.

This cycle was repeated several times during the unit on magnets.

The stages are described in more detail in the following section, together with examples of the language the children used. You will see that the children gradually learn to use language in ways that are more appropriate to the context they are in (learning and talking about science). Note as well the role that the teacher-learner talk plays in this development.

### **Stage 1: Doing an Experiment**

In many elementary schools, it is usual for students to rotate through a number of activities over the course of one or two lessons. However, as suggested in Chapter 2, this kind of organizational structure negates any authentic purpose for reporting back to others, since children are likely to have shared very similar experiences. Here, the teacher made an attempt to set up a genuine communicative situation by having each group of children work at different (though related) science experiments. And so, by the time they had completed their experiments, each group of children held different information from other class members. In its communicative structure, the classroom organization was based on what we referred to in the previous chapter as an information "gap," so that there was an authentic exchange of information at the reporting stage.

The children were carrying out the experiment described in Chapter 2. Prior to beginning the activity, they were told that they would later describe, and attempt to explain, to the rest of the class what happened. The texts that follow occurred as students were engaged in this activity.

#### **Text 1**

HANNAH: try . . . the other way  
 MARCO: like that  
 HANNAH: north pole facing down  
 JOANNA: we tried that  
 DANIELLA: oh!

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HANNAH: it stays up!

MARCO: magic!

DANIELLA: let's show the others

JOANNA: mad!

DANIELLA: I'll put north pole facing north pole . . . see what happen

MARCO: that's what we just did

DANIELLA: yeah . . . like this . . . look

*[The dialogue continues for several minutes longer as the students try different positions for the magnet, and then they begin to formulate an explanation.]*

HANNAH: can I try that? . . . I know why . . . I know why . . . that's like . . .

because the north pole is on this side and that north pole's there . . . so they don't stick together

DANIELLA: what . . . like this? yeah

HANNAH: yeah . . . see because the north pole on this side . . . but turn it on the other . . . this side like that . . . turn it that way . . . yeah

DANIELLA: and it will stick

HANNAH: and it will stick because . . . look . . . the north pole's on that side because . . .

DANIELLA: the north pole's on that side yeah

At this stage, the children do not know the terms *attract* and *repel*. Instead, they use familiar words like *stick* or *push away*. (Sometimes this led to very interesting comments—one child was overheard to say, as he was holding two magnets that were repelling each other, "It feels like a strong wind!")

What can we learn from this example? First, we can see again how small-group work supports learning. Together children explored and developed certain scientific understandings, namely that the position of the poles is significant in how the magnets behave. They also attempted to hypothesize about the causal relations involved (note the use of the connectives *so*, *because*). So, even though they were not using what we might think of as science language, they were learning a lot about science. As the discourse progresses, individual utterances became longer and more explicit, and this occurred as the students began to formulate explanations for what they saw. The teacher's instruction to "try to explain what you see" was significant here, since it extended the task from simply "doing" to "doing and thinking." Wegerif and Mercer (1996) suggest that it is through this kind of exploratory talk "that knowledge begins to be built up and reasoning is made more visible" (51). This piece of learning later became shared knowledge when the children reported to the rest of the class, and was the basis upon which the teacher next introduced subject-specific vocabulary such as *attract* and *repel*.

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### Stage 2: Introducing Key Vocabulary

Before the children reported to the rest of the class, the teacher introduced a new vocabulary item, drawing on the experiences the children have just had and at the same time demonstrating the meanings physically:

now I'm going to give you another word for what Joseph was trying to say one more scientific word . some of you were saying it pushes away . . . or slips off . . . so instead of saying the magnet pushes away I'm going to give you a new word . . . *repel* [said with emphasis] . it actually means to push away from you [demonstrating with her arm] .  
*repel*.

From the point of view of second language learning, it is important to note that in this classroom the children were given an opportunity to develop some understandings about magnets *before* they were expected to understand and use more scientific discourse. It is not until after the group work that the teacher introduced the scientific terms *attract* and *repel*—that is, at a time when students had already expressed these meanings in familiar everyday language. There is some parallel here to the principle within bilingual programs that suggests that learning should occur first in the mother tongue as a basis to learning in the second language, but here the issue is one of register rather than language.

### Stage 3: Teacher-Guided Reporting

Science educator Rosalind Driver (1983) makes the important point that “activity by itself is not enough. It is the sense that is made of it that matters” (49). In teacher-guided reporting, the teacher talks with the children to help them make sense of the activities in which they have been engaged. Wegerif and Mercer (1996) suggest that as children are encouraged and enabled “to clearly describe events, to account for outcomes and consolidate what they have learned in *words*,” they are helped to “understand and gain access to educated discourse” (53, emphasis added).

In the classroom example shown here, the overall aim of the teacher-guided reporting was to extend children’s linguistic resources and focus on aspects of the specific discourse of science. As the teacher expressed it to the children, “Now we’re trying to talk like scientists.” She also anticipated that the reporting stage would create a context for students to “rehearse” language structures that were closer to written discourse—that is, that were closer to the written end of the mode continuum.

In the text shown in Figure 3–1, Hannah is explaining what she learned. The teacher’s role in guided reporting is of course crucial; the text provides an example of how her interactions with individual students provided a scaffold for their attempts, allowing for communication to proceed while giving the learners access to new ways of expressing the meanings they wanted to make.

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	Student	Teacher
1		try to tell them what you learned . . . OK . . . (to Hannah) yes?
2	when I put/ when you put . . . when you put a magnet . . . on top of a magnet and the north pole poles are . . . . . (7-second pause, Hannah is clearly having difficulty expressing what she wants to say)	
3		yes yes you're doing fine . . . you put one magnet on top of another . . .
4	and and the north poles are together er em the magnet . . . repels the magnet er . . . the magnet and the other magnet . . . sort of floats in the air?	
5		I think that was very well told . . . very well told . . . do you have anything to add to that Charlene? (The teacher invites other contributions, and then asks Hannah to explain it again.)
6		now listen . . . now Hannah explain once more . . . alright Hannah . . . excuse me everybody (regaining class's attention) . . . listen again to her expla- nation
7	the two north poles are leaning together and the magnet on the bottom is repelling the magnet on top so that the magnet on the top is sort of . . . floating in the air	
8		so that these two magnets are repelling (said with emphasis) each other and . . . (demonstrating) look at the force of it.

FIGURE 3-1. Teacher-Guided Reporting (2)

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This interaction between teacher and student is different in several small but important respects from the traditional IRF pattern, which was discussed in Chapter 2. Typically, the IRF pattern occurs in fairly predictable ways, frequently involving a question to which the teacher already knows the answer, followed by a student answer (often brief), and finally a teacher evaluation relating to the correctness (or otherwise) of the answer. For the most part, teachers' questions are often framed in ways that do not allow for students to make extended responses (Dillon 1990). In contrast, in the text shown in Figure 3-1, the interactions approximate more closely what occurs in mother-tongue, adult-child interactions outside of the formal teaching context (see, for example, Halliday 1975; Painter 1985).

During teacher-guided reporting, the teacher begins the exchange by inviting students to relate what they have learned, rather than with a known answer or display question. In this way, the teacher sets up a context that allows the students to initiate the specific topic of the exchange. As Ellis (1994) shows, when learners initiate what they wish to talk about, language learning is facilitated because they enter the discourse on their own terms, rather than responding to a specific request for information from the teacher. In the text shown in Figure 3-1, the student takes on the role of "expert." Although the teacher is in control of the knowledge associated with the overall thematic development of the topic, the individual exchanges locate that control in the student.

This increase in the equality of teacher and student roles leads Hannah to produce longer stretches of discourse than often occurs in classroom interaction. The teacher can be described as "leading from behind." At the same time, while the teacher follows Hannah's lead and accepts as a valid contribution the information the child gives, she also recasts or reformulates what Hannah says, modeling alternative forms of language that are more appropriate in the context of talking about science.

From the perspective of second language learning, it is clear that teacher-guided reporting encourages learner language to be "pushed." Hannah is going beyond what is unproblematic for her, but, because she is allowed a second attempt, she has an additional opportunity for comprehensible output (see Chapter 2). Hannah's second attempt at her explanation is considerably less hesitant and syntactically more complete than her first, and it is produced this time without the help of the teacher. As I discussed in Chapter 1, Vygotsky (1978) suggests that learning occurs, with support from those more expert, at the learner's zone of proximal development—that is, at the "outer edges" of a learner's current abilities. In Turn 2, Hannah appears to have reached her own zone of proximal development for this task, since she hesitates for a considerable time and can presumably go no further alone. The recasting and support she receives from the teacher (Turn 3) is precisely timed for learning to occur and to assist Hannah to continue with what she wants to say.

As this text illustrates, the reporting context also gives students opportunities to produce longer stretches of discourse that are more written-like than those that occurred in the small-group work. Often this required the teacher to increase wait



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time, on occasions for as long as eight seconds. Research suggests that when teachers ask questions of students, they typically wait one second or less for the students to begin a reply, but that when teachers wait for three or more seconds, there are significant changes in student use of language and in the attitudes and expectations of both students and teachers (Rowe 1986). It would seem likely that increased wait time is even more important for students who are formulating responses in a language they do not fully control. Perhaps equally important, we can see from these interactions that students are able to complete what they want to say successfully: they are positioned as successful interactants and learners. In addition, since it is the immediate need of the learner that is influencing to a large extent the teacher's choice of actual wording, it seems likely that this wording will be more salient to the learner—more likely to be taken note of—than if it had occurred in a context that was less immediate.

Another significant mode shift occurred toward the end of most reporting sessions, where the teacher used children's personal knowledge to show how generalizations might be generated. For example, her questions at this point included:

*Can you see something in common with all these experiences?  
What's the same about all these experiments?*

Such questions require the students to do more than simply produce a personal recount of what they did; they must now express their learning in terms of generalizations. Note how in the examples below, the children no longer mention themselves in the discourse:

*the north pole of the magnet sticks . . . attracts . . . the second magnet . . . the south pole of the second magnet.  
if you put the south and north together then they will . . . attract but if you put north and north or south  
and south . . . together . . . they won't stick . . . attract.*

The teacher-guided reporting stage, then, both in the way language is used and in the ways that children are encouraged to generalize from their learning, serves to create a bridge for learners between personal ways of understanding a phenomenon and everyday language, and the broader concepts and language associated with the science curriculum.

**Stage 4: Journal Writing**

After the students had taken part in the reporting session, they wrote a response in their journals to the question, "What have you learned?" These responses later served as a source of information in the writing of more formal reports about magnets. What is particularly significant is that these journals indicated that the talk with the teacher had influenced the way the students wrote: the students' writing reflected wordings that they had used in interaction with the teacher, or that had been part of the teacher's recasting. This was particularly evident when the students themselves had had opportunity to reformulate their own talk. Here, for example, is what Hannah wrote:

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I found it very interesting that when you stuck at least 8 paddle pop sticks in a piece of polystyrene, and then put a magnet with the North and South pole in the oval and put another magnet with the north and south pole on top, the magnet on the bottom will repel the magnet on the top and the magnet on the top would look like it is floating in the air.

And here is an excerpt from the journal writing of a student who had listened to the talk between Hannah and the teacher. The conversation influenced her writing too.

The thing made out of polystyrene with paddle pop sticks, one group put one magnet facing north and another magnet on top facing north as well and they repelled each other. It looked like the top magnet was floating up in the air.

### **In Summary**

While this teacher's program illustrates the value of learning by doing (especially for second language learners where concrete experiences help make language comprehensible), it also illustrates the critical role of teacher-student talk in children's learning and language development. Regular teacher-guided reporting is one way of providing an authentic and meaningful context for students to develop the more academic registers of school.

We can also see that it is not simply the linguistic features of language itself that affect students' comprehension (for example the simplicity or otherwise of the grammatical structures), but also the previous knowledge they bring to the new language they are hearing. Note that in this classroom the new language introduced by the teacher occurred *after* students had already developed some understanding of key concepts through the small-group work, and so new language was more readily interpretable by the students. What preceded this new language—in this case the learning that the students had gained through their participation in the small-group work—was therefore an important factor in students' understanding of it and their ultimate ability to use it.

One implication of this for teaching is that language that would normally be beyond students' comprehension is much more likely to be understood when students can bring their experiences and understandings as a basis for interpretation. This broad principle is illustrated at other points in this book, in particular in the chapters on reading and listening. In the words of Wong-Fillmore (1985) at the beginning of this chapter, written in relation to her study of kindergarten ESL learners, "prior experiences serve as the contexts within which the language being used is to be understood" (31).

This overall sequence of activities also presents a challenge to more traditional ways of sequencing teaching and learning activities in the second language classroom, where a new topic very often *begins* with the pre-teaching of vocabulary or a grammatical structure. While this approach may certainly be appropriate at times, it is worth remembering that it is underpinned by the notion that learners must first "learn"

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language before they can “use” it. As we have seen, however, ESL learners must from the outset use their second language for curriculum learning, and they need many contexts in which they can do this. In this class, students used their current language resources at the beginning of the unit while the focus on new language occurred at later stages, a sequence that allowed for students to build on their existing understandings and language, and to link old learning with new. In effect, they moved successfully toward the language of the curriculum, throughout the unit of work, rather than being expected to master it prior to their learning of science.

## Suggestions for Further Reading

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